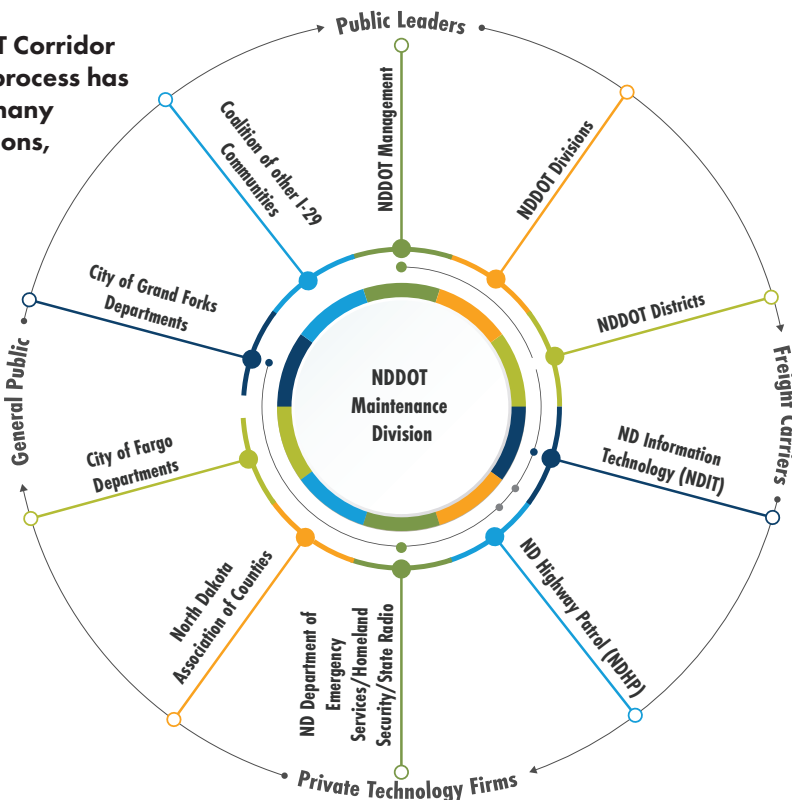


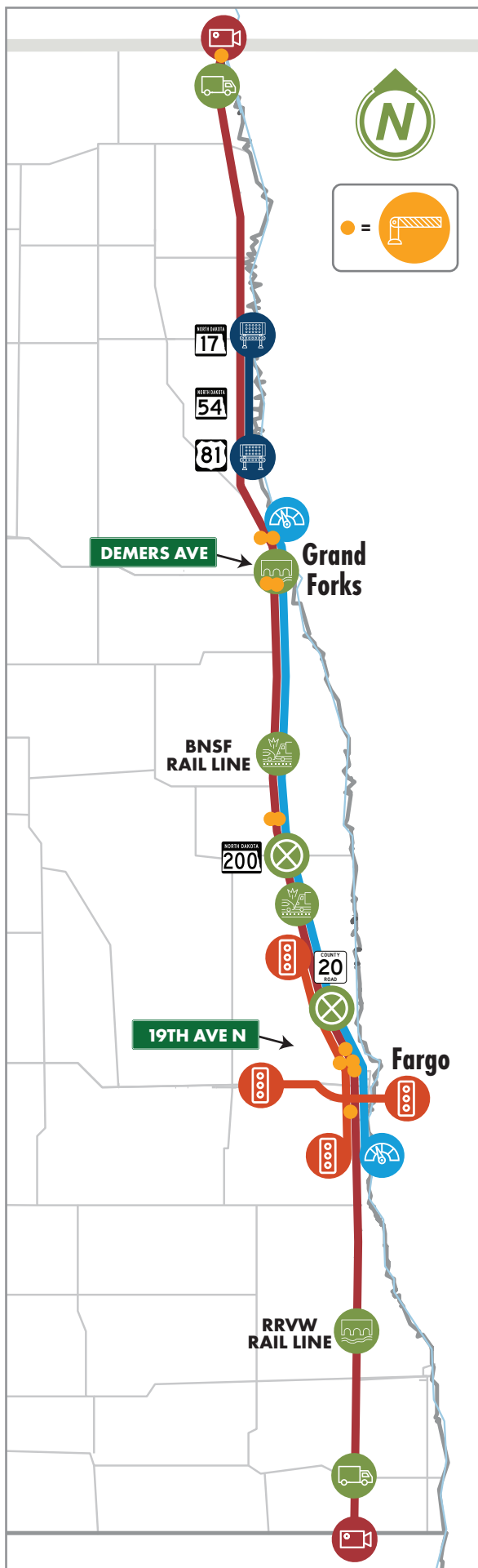
NDDOT is developing a roadmap to build an innovative, statewide Transportation Management Center (TMC) in North Dakota that incorporates a SMART Corridor along I-29 to better manage the state's network of devices and sensors; expand roadway monitoring and condition reporting to an around the clock, year-long schedule; and streamline the deployment of advanced technologies. The SMART corridor is focused on **Safety, Mobility, Automation, and Realtime Traffic Management** through the integration of technology into I-29.

The SMART Corridor planning process has included many organizations, including:



I-29 is a critical corridor for North Dakota in many ways. It provides connectivity nationally and internationally.

<p>The I-29 corridor experiences crash rates 30% higher than statewide averages. 45% occur during inclement weather conditions.</p>	<p>Nearly two thirds of delays on Interstates in North Dakota are caused by events like weather, flooding, or construction work.</p>	<p>5 of the 10 most significant freight bottle necks on I-29 nation-wide occur in the Fargo area.</p>	<p>Up to half of future development in Fargo and Grand Forks is expected to occur within 1 mile of I-29.</p>	<p>The Pembina-Emerson point of entry is the fifth-busiest land-based point of entry on the U.S./Canada border.</p>	<p>Almost half of the lands adjacent to I-29 are home to at least one community of equity concern.</p>
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INCIDENT SURVEILLANCE AND DRIVER AWARENESS uses a combination of sensors, cameras, and dynamic signage to identify issues like crashes and weather, quickly begin needed response, and to alert drivers to changing or hazardous conditions ahead. Systems like this in other states have cut the time it takes to clear a crash in half, limiting secondary crashes!



VARIABLE SPEED LIMITS from south of Fargo across Grand Forks factor in real-time travel speeds, weather, incidents, special events, and work zone information to continuously maintain a safe speed limit. **This approach to traffic management has the potential to avoid or lessen the severity of over 135 crashes per year.**



RAMP METERING during peak traffic periods is included on I-29 and I-94 in Fargo. By moderating the rate that vehicles enter the interstate system, this system has the rate to reduce 75% of peak hour delays (which is consistent with applications in the Minneapolis-St. Paul metro area and other locations). Ramp metering may reduce crashes around the I-29/I-94 interchange by as much as 50%.



CURVE WARNING SYSTEMS will be installed at high-crash locations to reduce run-off-the-road crashes. These systems flash when drivers are moving faster than is safe and will consider roadway conditions like rain or snow.



ALTERNATIVE ROUTING SYSTEMS at locations prone to flooding or other temporary closures can automatically update dynamic signage to give drivers a backup route when I-29 must be closed.



WRONG-WAY RUNNING SYSTEMS at targeted wrong-way running crash locations will use video detection and active warning signs to try to prevent drivers from entering off ramps.



BRIDGE DE-ICING SYSTEMS use sensors to identify conditions conducive to bridge ice. Using nozzles embedded in the bridge, de-icing substances are sprayed on the road to improve friction and reduce crashes.



ELECTRONIC ROAD CLOSURE GATES allow field staff to remotely close gates at safe locations. When gates need to be closed, roads are typically at their most treacherous. Remote operations will keep field staff out of harm's way.



TRUCK PARKING INFORMATION MANAGEMENT SYSTEMS provide real-time parking availability information to drivers. Vehicle detection at rest areas and/or truck stops can be relayed through dynamic message signs, the ND Roads Map, and navigation systems to long-haul drivers.



CROWD-SOURCED INFORMATION: Through the ND Roads app, NDDOT will collect information to identify and anticipate incidents on North Dakota roads. This approach can reduce the time it takes to identify an incident and dispatch first responders by one third to one half.



VIRTUAL WEIGH STATION will include various commercial vehicle safety and pavement protection tools such as weigh-in-motion, tire anomaly, and infrared brake sensors.

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